

MT-505	Operations Research and Optimization
	<p><u>Linear Programming:</u>  Concept of linear programming model, Graphical methods, Simplex methods, Dual simplex methods, Duality theory, Primal and dual problems.</p> <p><u>Special Types of Linear Programming Problems:</u>  Mathematical model for transportation problem, Types of transportation problem, Russell's method, Transshipment problem, Assignment problem, Goal programming, Sensitivity analysis, Parametric programming, Integer programming, Dynamic programming.</p> <p><u>Queuing Theory:</u>  Basic queuing process, Birth and death process, Basic model with infinite and finite queue, Limited input source, Priority queuing model.</p> <p><u>Game Theory:</u>  Introduction to game theory, Game with pure and mixed strategies, Dominance property, Graphical and linear programming for game theory.</p> <p><u>Inventory Control Theory:</u>  Deterministic models, Continuous review-uniform demand, Shortage permitted, Quantity discount-shortages not permitted.</p> <p><u>Stochastic Models:</u>  Single-period model with no setup cost, Model with initial stock level, Single-period model with setup cost, Two-period inventory model with no setup cost.</p> <p><u>Reference Books:</u></p> <ol style="list-style-type: none"> <li>1. Hillier S.F and Lieberman G.J, <i>Introduction to Operations Research</i>, 7th Edition, McGraw Hill Education, 2007.</li> <li>2. Hamdy A.T, <i>Operation Research</i>, 8th Edition, Prentice Hall, 2006.</li> <li>3. Winston W.L, <i>Operations Research Applications and Algorithms</i>, 4th Edition, Duxbury Resource Centre, 2008.</li> </ol>